

CSO Puget Sound Beach Projects

Modeling Results Update

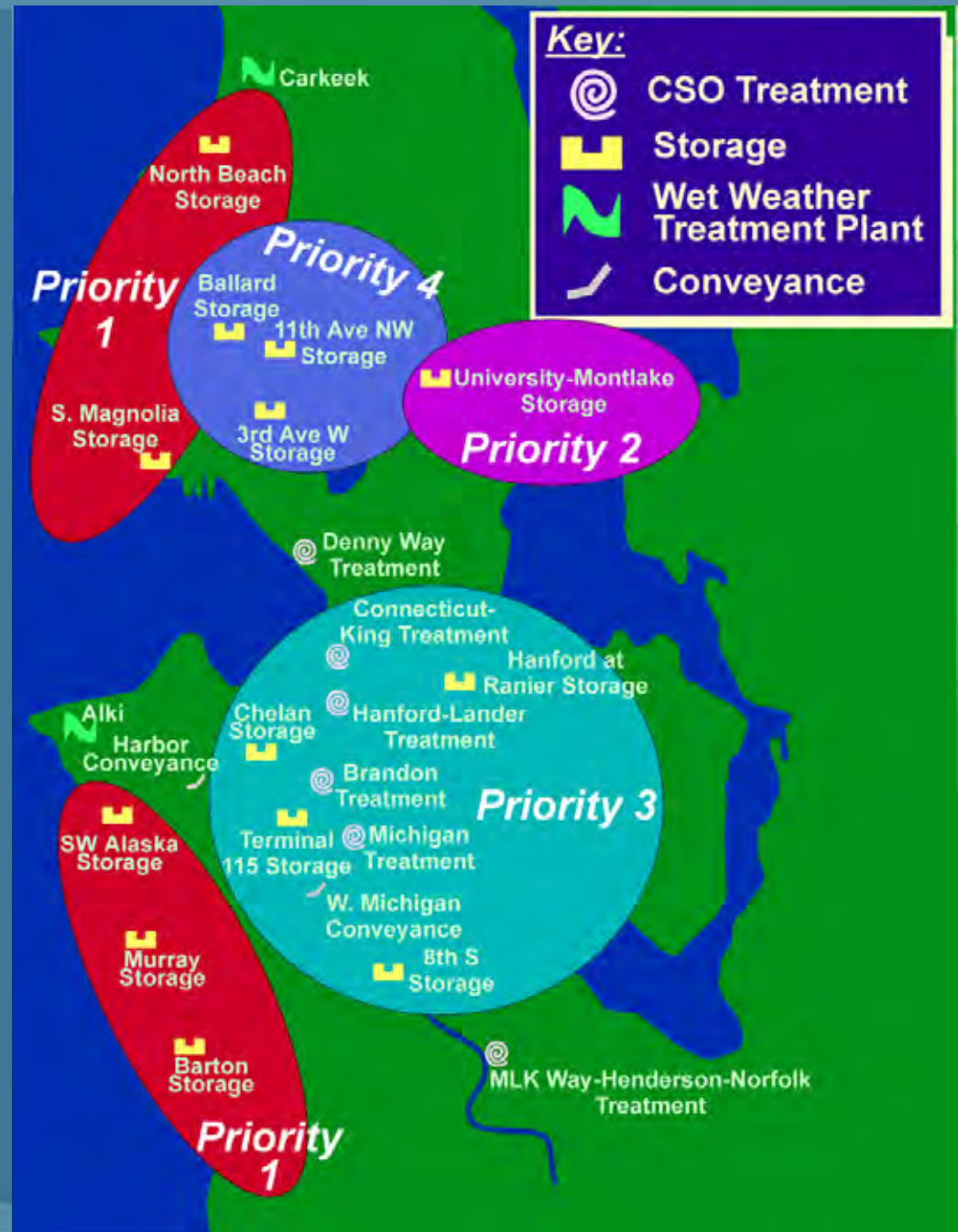
*Combined
Sewer
Overflow Control*



King County

Bob Swarner
MWPAAC E & P Subcommittee
April 1, 2009

King County CSO Project Priorities



Status of Projects

- Detailed metering was performed last year
- Model calibration is underway
- Alternatives Analysis will follow

Alternatives to be Considered

- Demand Management
 - Green stormwater infrastructure (GSI)
 - Sewer separation
- Storage
- CSO treatment
- Pump Station Upgrades
- Combinations of the above

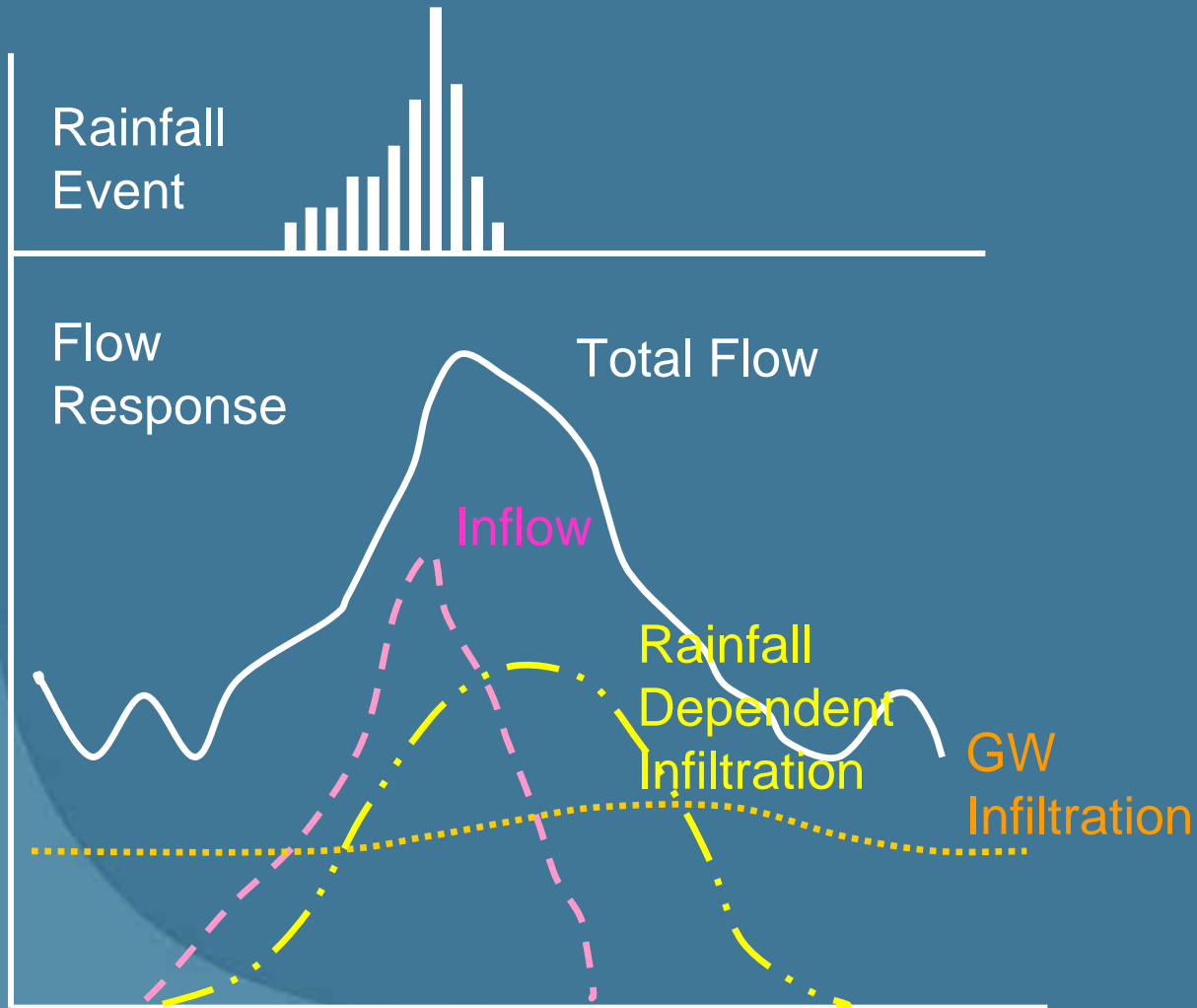
Preliminary Alternatives Analysis

- One alternative: assumed certain pump station capacities and estimated required storage
- Storages differed from what was assumed in RWSP

Update of Storage Estimates

- Modeling effort – still underway
- So storage volumes will change again
- Differences in storage at the 4 project locations
- Storage volumes will change again

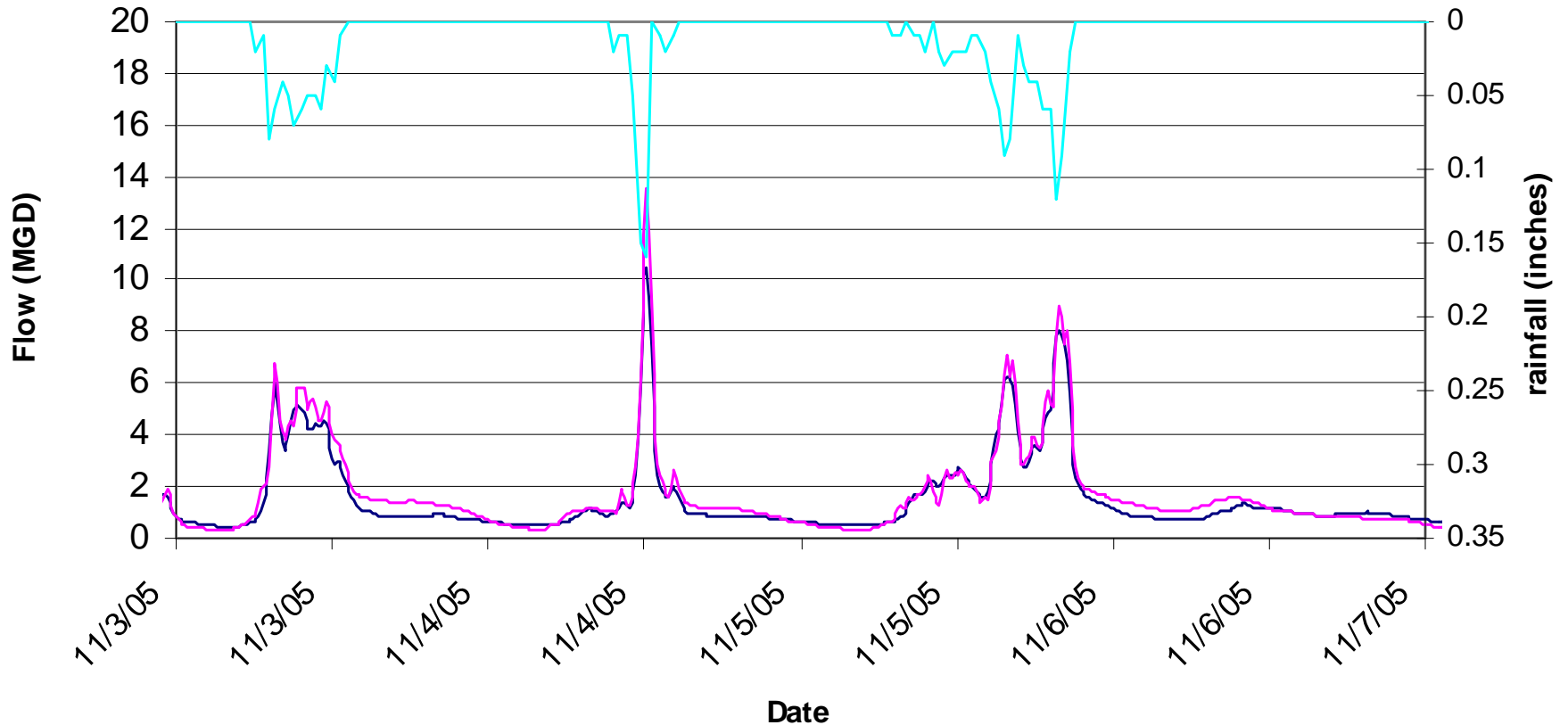
What Can Models Provide?



Calibration Example

S. Magnolia Model Calibration (154,153, 152: 49_{imp} 106_{per})

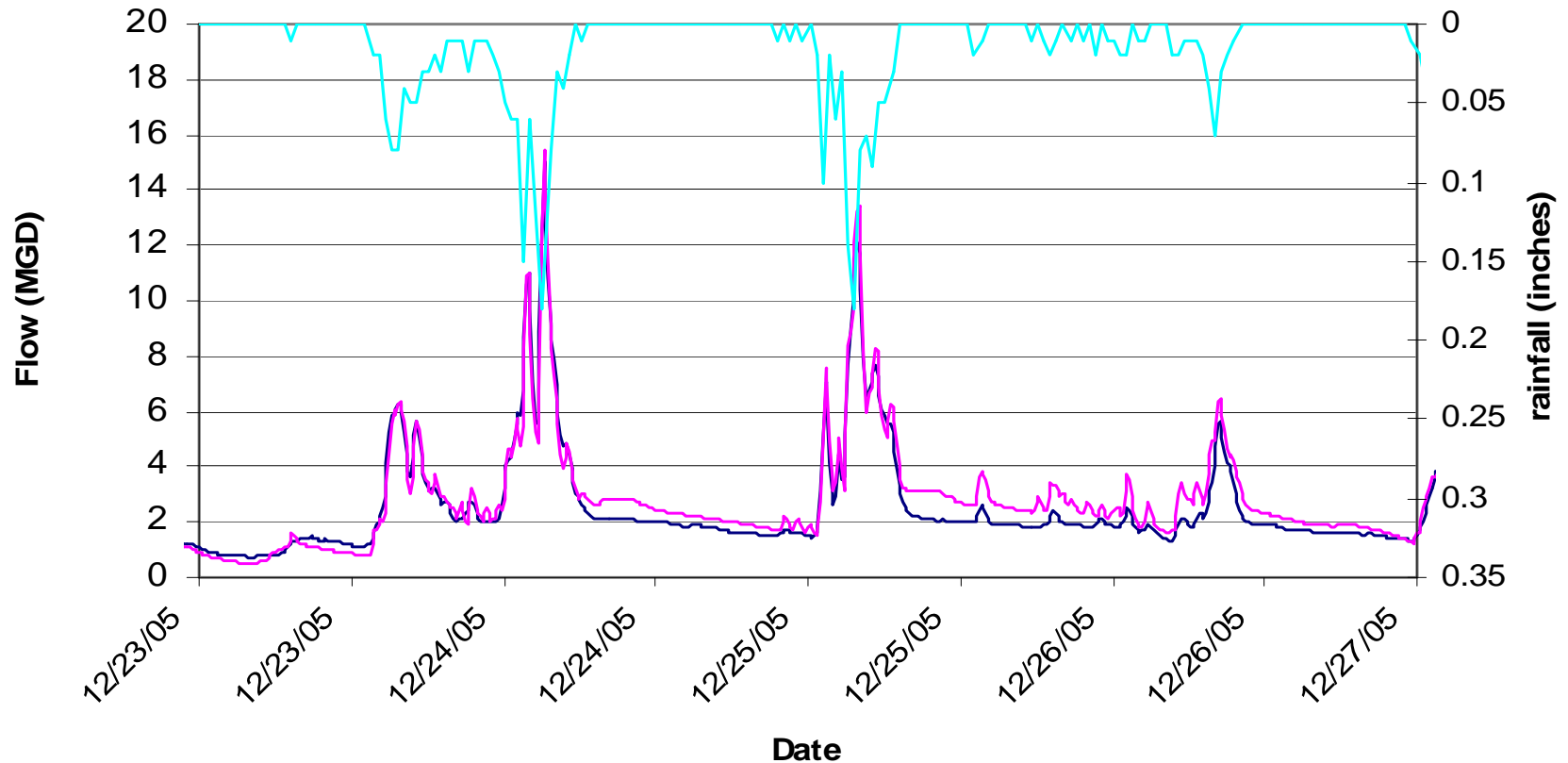
MH20-104 6/15 RG12



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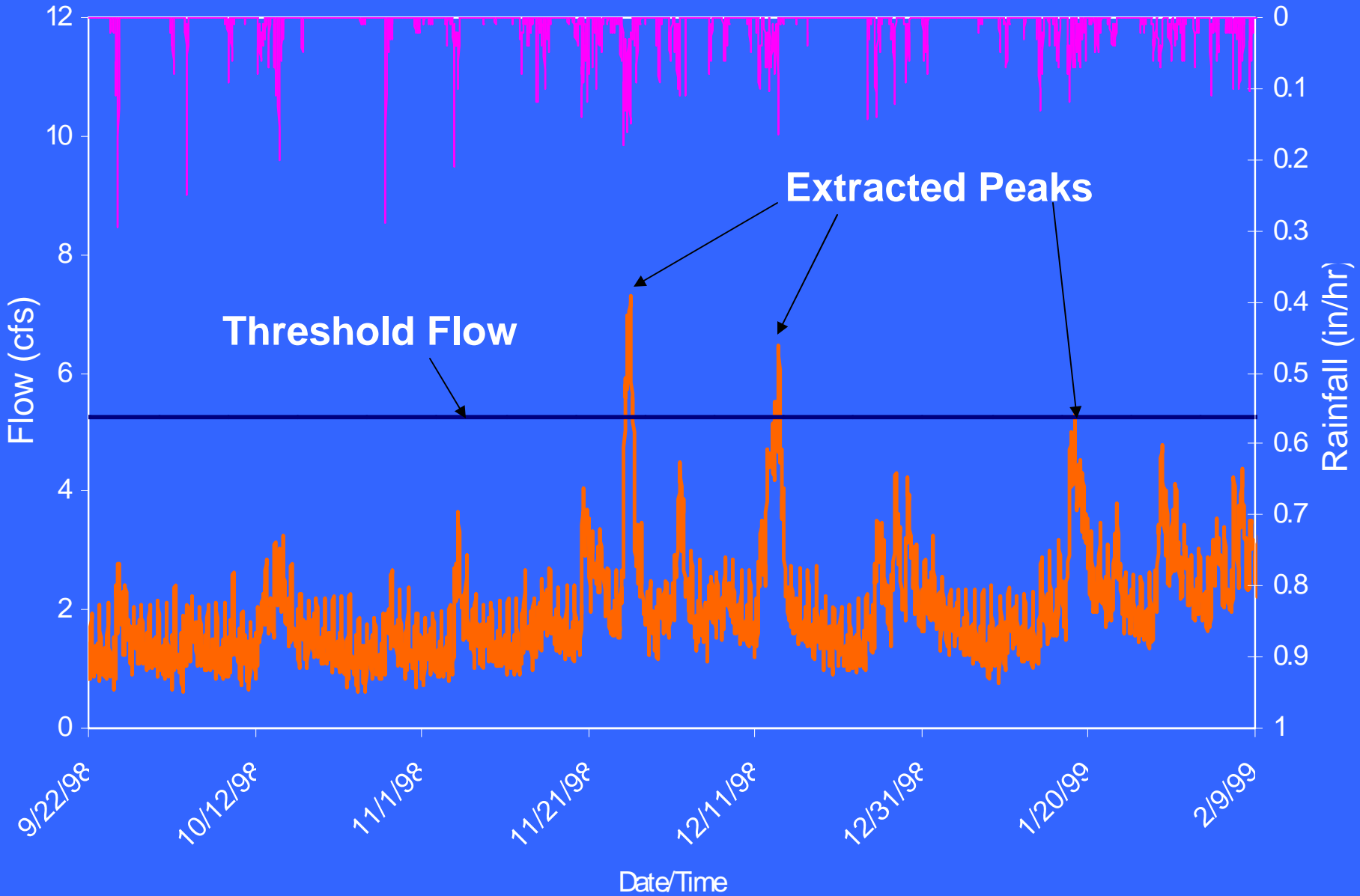
MH20-104 6/15 RG12



Storage Estimates

- Design Storm
or
- Continuous Simulation

Peak Extraction



Reason for Changes

- Updated pump station information, with pump tests
- Recent construction (force main replaced at Barton in January 2006)
- Recent planning incorporated to optimize existing pump stations and force mains
- Better metering at Murray PS
- More meters to calibrate models
- Updated computer models

Barton Pump Station

- RWSP

**New 7.5 mgd PS +
Force Main**

- Current

**Use 2 new force
mains (Jan. '06)**

**Upgrade existing PS
to 33 mgd**

+ 0.11 MG Storage

Murray Pump Station

- RWSP

0.8 MG Storage

- Current

1.0 MG Storage

SW Alaska St.

- RWSP

0.7 MG Storage

- Current

No project Needed

Total Alki Area Projects

- RWSP

New Pump Station

New Force Main

1.5 MG Storage

- Current

**Pump Station
Upgrade**

**New force mains
(already
constructed)**

1.11 MG storage

North Beach

- RWSP

Upgrade Pump
Station to 4.5 MG
0.14 MG Storage

- Current

Upgrade Pump
Station to 4.5 mgd
1.2 MG Storage

South Magnolia

- RWSP

1.3 MG Storage

- Current

1.8 MG Storage

Puget Sound Beach CSO 1-Year Storage Volumes

	<u>RWSP</u>	<u>Current</u>
Barton	7.5 mgd PS + Force Main	0.11 MG w/ 33 mgd PS
Murray	0.8 MG	1.0 MG w/ 33 mgd Barton PS
North Beach	0.14 MG w/ 4.5 mgd PS	1.2 MG w/ 4.5 mgd PS
South Magnolia	1.3 MG	1.8 MG
SW Alaska St.	0.7 MG	0 MG

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Questions?

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